

Aviation News

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Navy's 'Flying Pancake': Shown is the full-scale, low-powered flying model of the XF5U-1, Chance Vought Aircraft's radical design which hovers on its props like a helicopter. This version, the V-173, was first flown in 1942. The XF5U-1 itself has been completed and will be test flown probably in September. Story on Page 7. (Official U. S. Navy photograph.)

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Latest route figures show American carriers are flying 4,919,341 miles.....Page 29

THE *New* HONEYWELL ELECTRONIC

Fuel Gage



THE TANK UNIT . . .

The tank unit is the fuel measuring part of the system. It consists essentially of three concentric tubes, equally tapered together, but electrically insulated from each other. The outer tube serves as a support and protection shield for the other two, which form the two plates of a condenser. A flange is provided at one end of the system for mounting the unit in the tank. The rugged construction of this unit and the absence of any moving parts or electronic components eliminate the necessity for any servicing beyond an occasional inspection.

THE POWER UNIT

As the fuel level in the tank falls, the condenser, which is connected to the power unit, which consists of an amplifier and a reference unit mounted together on one rack. (The amplifier rack is not required if a suitable shelf or rack is provided in the airplane.) The amplifier may be easily detached from the condenser unit for use in special service, or continuing without changing calibration of the system. Adjustments for both empty and full indications are provided in the condenser unit. Full calibration is easily accomplished at the time of installation by merely connecting a standard calibrating condenser between two terminals in the calibration unit. This causes one standard element in the condenser to fill the tank and adjust the wiper to achieve such indication.

THE INDICATOR

The indicator, which is designed for convenient panel mounting in a 3 1/2 inch opening, registers fuel quantity in gallons to 1/2 degree of. The unit is powered by a magnet instrument motor which positions the pointer and the balancing potentiometer through a 7740-watt gear train. This speed reduction governs the reference line responding to condenser output and registering of the fuel in the tank. Yet the indicator operates fast enough to follow any normal change in fuel level and is so accurate it requires checks as well as 1/2 inch. The scale on the indicator dial is 7 1/2 inches long and occupies five eighths of the dial circumference. (The scale may be calibrated in pounds instead of gallons if desired.)

Honeywell—Honeywell Regulator Company, 3500 Fourth Avenue South, Minneapolis 5, Minnesota. —Resellers and Distributing Offices in all principal areas.

Honeywell
CONTROL SYSTEMS

THE AVIATION NEWS

Washington Observer



STATE ENFORCEMENT—Government attorneys are now considering when—if decided upon—will be one of the most important actions ever taken in the field of safety regulation enforcement. They believe they have simple precedent for the delegation by CAB to state agencies of the power to prosecute in CAB's name safety regulations and the further enforcement by state agencies on the name of CAA of those regulations. One precedent is the Pure Fuel and Drug laws. Purpose would be to insure uniformity of regulations without making necessary legislation by the 48 state legislatures.

COMMUNITIES NOT HAPPY—The recent CAB feedline decision startled few of the communities concerned. Both cities provided with feedline service, and those denied any service are flooding the feed with protest mail. The cities being served by feedlines are not so much as they did not get major airline feedline service and are to be served by what they term "inexpensive" companies.

STEAMSHIP SPOKESMAN DEFEATED—Senator George Radcliffe (D-Md.), one of Capitol Hill's leading spokesmen for the steamship industry, was defeated for the Democratic Senatorial nomination by Gov. Herbert O'Connor. Radcliffe was one of the most active members of the Senate Commerce Committee on international aviation. He sponsored the "Latinam report," which asserted that CAB should award Pan American Airways domestic routes as long as it awarded domestic routes international routes.

ARMY BACKGROUND—The quiet criticism of the appointment of Maj. Gen. Carlo LeMay as head of AAF's research and development is surprising. LeMay's long-time assignment. To the charge that AAF's research has a combat ground with little knowledge of the involved technical problems connected with AAF's research problems, then friends answer that LeMay before the war was AAF's outstanding navigational officer and quite his entire previous Army career as the technical head of aviation. Further, it is

pointed out, that when LeMay took charge of the B-29's in Saigon, a great part of the job involved engineering problems which had been encountered in B-29 operations.

CORRECT AIRPORT FLAW—Legislation opening the way for construction of large airports (dian four and five) during the 1947 fiscal year appears slated for early enactment. Introduced in the House by Rep. Alfred E. Bielefeldt (D., N. C.) and in the Senate by Sen. Pat McCarran (D., Nev.), the measure corrects a technical flaw in the Airport Act which would bar the building of large ports before next July. The bill has been passed by the House and approved by the Senate Commerce Committee. Approval by the Senate and the President is expected to be routine.

STATE'S EXPORT POLICY—To all request for export licenses on U. S. military planes, the State Department is giving a fast response. Public explanation: The U. S. is committed, under the United Nations Charter, to an international military security organization, and it would be inimical to this ideal for this country to export military aircraft. It has been pointed out to State that Great Britain, also a Charter signatory, has exported propeller-driven "Vanguards" to Sweden, and is re-equipping the French air force, but State is sticking to its "no," and advising the Army which wants to have military planes sold particularly in South America for purposes of Hemisphere modernization in military equipment.

FLAG LINE BILL—Senate Commerce Committee agreed at an executive session to take up the McCarran "All American Flag Line" bill that forbids Congress members after the November election. Convinced that it will, McCarran suggested the committee to find itself in action on his "community company" bill. Under the pressure of other business Senate Commerce has twice called off hearings on the measure during the past month.



They carry the Constellation

There is just one reason why so many Constellations and other superliners are being equipped with Goodyear tires. Both aircraft manufacturers and airline operators have learned from long experience that Goodyear are standard in ruggedness, dependability and safety—superiorities stemming from Goodyear's 35 years of leadership in airplane tire development.

Next. No matter what your operation, or kind of ship, there is a Goodyear tire specially designed to meet your specifications—low extra-low to highest pressure types, loaded with nylon cord to meet any load requirement. For full data, write: Goodyear, Aviation Products Division, Akron 16, Ohio or Los Angeles 54, California.



More aircraft load on Goodyear tires than on any other kind

Navy Reveals 'Flying Pancake' As Radical Experimental Model

XP5U-1 has conventional power but can hover like helicopter; has steeped range from zero to 550 mph with gas turbine power and uses new aerodynamic profile.

Though a full-scale model was constructed of wood and fabric and used low-power engines.

Other features of the XP5U-1 include:

Power by two Pratt & Whitney R-2800 Twin Wasp engines developing 1900 h.p. at 2700 r.p.m. for

takeoff. These engines are "haired" in the wing on either side of the cockpit and drive the propellers at the tip through right-angle transmission systems which include approximately 1:1 propeller reduction gearing. Special clutches permit either engine to drive both propellers in emergency.

Controls located in the wing trailing edge including two vertical gas and rudders and special eleven-type horizontal surfaces extending outward from the rear of the wing. These latter consist of "eleveners" for longitudinal control and "vaneons" provided by differential movement of the stabilizer



Naval Design Nears Test Stage. Shown is the completed XP5U-1, and a rear view of a mock-up of still another model of Chance Vought's revolutionary design which, despite its seeming aerodynamic inefficiency, looks for squared the ratio between landing speed and top speed, values for many years has stood at 1 to 4.



Constructing essentially of a sound wing with better propellers at the outer edges, the "Skimmer," or "Flying Pancake" seemingly violates every rule of aerodynamics, yet paradoxically promises to rival the flying wing in efficiency and the helicopter in utility.

Salient feature of the XP5U-1 is its amazing speed range. While design for years has not been able to do better than a 1 to 4 ratio of landing speed to top speed, the Vought aircraft ranges from 40 to 425 mph with standard engines; 20 to 460 mph with water injection engines; and 0 to 550 mph with gas turbine power plants.

The last ratio focuses the spotlight on the airplane's other distinctive characteristic: ability to hover as its propellers. This is made possible by a specially-arranged type of blade, similar to that used on helicopters. These propellers were developed for the XP5U-1 by Hamilton Standard, another United Aircraft subsidiary.

In standing the plane as its tail, the pilot will be able to ascend in the air, his forward speed depending on the power available, 0 mph receiving the greatest power. In this position, as the propeller blades move forward, it sweeps a desired angle, as it wraps all it flutters out as in a helicopter rotor.

The XP5U-1 is expected to be given its test flight in September. The practicality of the design, however, has been proven in flight of an earlier version, the V-72, which first flew in 1943. This, al-

AVIATION CALENDAR

July 10-11—Hawthorne exhibition, Seattle, Wash. (to be cancelled if rain continues)
July 11-12—Hawthorne exhibition, Los Angeles, Calif.
July 12-13—Hawthorne exhibition, San Francisco, Calif.
July 13-14—Hawthorne exhibition, Portland, Ore.
July 14-15—Hawthorne exhibition, San Francisco, Calif.
July 15-16—Hawthorne exhibition, Los Angeles, Calif.
July 16-17—Hawthorne exhibition, San Francisco, Calif.
July 17-18—Hawthorne exhibition, Los Angeles, Calif.
July 18-19—Hawthorne exhibition, San Francisco, Calif.
July 19-20—Hawthorne exhibition, Los Angeles, Calif.
July 20-21—Hawthorne exhibition, San Francisco, Calif.
July 21-22—Hawthorne exhibition, Los Angeles, Calif.
July 22-23—Hawthorne exhibition, San Francisco, Calif.
July 23-24—Hawthorne exhibition, Los Angeles, Calif.
July 24-25—Hawthorne exhibition, San Francisco, Calif.
July 25-26—Hawthorne exhibition, Los Angeles, Calif.
July 26-27—Hawthorne exhibition, San Francisco, Calif.
July 27-28—Hawthorne exhibition, Los Angeles, Calif.
July 28-29—Hawthorne exhibition, San Francisco, Calif.
July 29-30—Hawthorne exhibition, Los Angeles, Calif.
July 30-31—Hawthorne exhibition, San Francisco, Calif.

proffers, which are controllable. Tricycle landing gear mounting fixed wheels on each strut and folding upward and all into clamshell doors in the wing lower surface.

The radical credit is an outgrowth of pioneering research into low aspect ratio (approximately the ratio of length to width of a wing) design by Charles H. Zimmerman, research engineer for the Chance Vought Aircraft. Zimmerman first conceived the idea of a "round wing" design while in charge of the Stability and Control section of NACA's Langley Memorial Aerodynamic Laboratory, which he joined in 1936. At that time, aerodynamicists for NACA, he was chiefly responsible for the design of such unorthodox wing planforms as the famous LMA, Freeflight Tunnel and the Free Spin Tunnel.

As early as 1933 Zimmerman began experiments on low aspect ratio designs and his tests revealed that whereas the type had been scorned by engineers due to its theoretical inefficiency actually the configuration was far more efficient than conventional long, narrow wings due to its inherently greater lift and far lower drag. The greatest loss of aerodynamic efficiency is controlled by wing up vortices which come through "spillage" of the air from the underside of the wing around the tip to upper surface.

Zimmerman conceived the idea of utilizing counter-rotating propellers on the wing tips to cancel the opposite directions to these vortices, thereby preventing their formation and achieving an equivalent aerodynamic aspect ratio of as high as 4 from a geometric aspect ratio of only 1. His calculations (that also in 1936 and the following year sold them to the Chance Vought Division, who later had no consulting engineer on the project).

From the idea the finished product has been a round beast with problems relating several million dollars in time and effort. The design progressed through wind tunnel models, flying scale models and a full-scale model. The theory became reality, along with proof of a greater sum of money, following a detailed explanation by T. F. Wright to the committee.

Although commitments, as well as other matters during the four delays, continued opposition to CAA ventures into a field formerly exploited by private enterprise, disposition of the Senate was to accept Wright's word for the need for the airplane, and never did a conference committee to arrive at a settlement of differences between the two houses.

Italy Approves TWA
 TWA started work last week that the Italian government had approved a decree law providing for the establishment of the Italian airline in which the U. S. carrier would participate, under the new act.

The tactical uses of the XP-104 type are numerous and may include the following:
 High speed combat plane (up to 400 mph) with one jet engine-driven propeller, making it the fastest propeller-driven aircraft in the world.

Interceptor with probably the highest rate-of-climb of any aircraft in existence at low altitudes.
 Fast fighter utilizing its lightweight boomerang characteristic to report fire results for headquarters and targets.
 To date no plans for production of the XP-104 have been announced due to its experimental status. However, more advanced versions, including a jet turbine version featuring a gross pilot installation, are under development. It is believed that the round wing design may well prove an entirely new aircraft form destined to rival the flying wing as the predominant aircraft configuration of future generations.

Fate of CAA Repair Funds in Conference

Question of whether CAA will be able to maintain a repair base for its own aircraft was up to a Senate-House conference committee of only 14s yesterday. Senate passage of the Committee Departmental Appropriation bill with the substitute for the House Randolph amendment (AMMENS 1906, June 21, 1945) which would have curtailed CAA's funds.

Members of the Senate Appropriations Committee, made public last week, reveal that CAA's authority to proceed with plans for the repair base was reduced, along with proof of a greater sum of money, following a detailed explanation by T. F. Wright to the committee.

Although commitments, as well as other matters during the four delays, continued opposition to CAA ventures into a field formerly exploited by private enterprise, disposition of the Senate was to accept Wright's word for the need for the airplane, and never did a conference committee to arrive at a settlement of differences between the two houses.

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Shion to NAS

Leon Shion has been appointed director of the National Aircraft Shion, and Rex Friedman has named assistant director Shion was in Navy public relations for aviation during the war, and since his discharge has been with Popular Science magazine. Friedman, a wartime AAF major, has been with Air Force.

Because of his change in status, Shion will return in September of aviation. When the war, which had been elected in May, he will be succeeded by Gene Dusen, aviation editor of the Indianapolis News, who has been first vice-president of AWA.

Air Corps Fund of \$1,199,500,000 Passes House After Budget Cut

Appropriation provides for 76 group combat strength supplemented by reserves and National Guard; plus strength of 31,614 including 19 jet bombers, 1,119 jet fighters; keep 276 bans.

An Army Air Corps appropriation for the coming fiscal year of \$1,199,500,000 was slipped by the House, in passing the War Department bill last week.

The Air Corps originally requested an appropriation of \$1,567,806,534. This was increased to \$1,688,655 by the Budget Bureau to \$1,199,500,000, the amount approved by the House Appropriations Committee and the House.

A fraction of wartime Air Corps budgets which reached a peak at \$3,338,451,000 in 1944, the consumption budget will permit the Air Corps to return.

A personnel strength totaling 400,000, serving 30 combat groups. This is approximately one-fourth of the Air Corps' peak wartime strength of 2,500,000, but 37 times its 1939 strength of 34,000. The major portion of the Air Corps personnel during the coming year—214,000—will be stationed overseas.

The remaining 186,000 will be stationed on the continent.

A plane strength of 31,614, of which 18 will be jet bombers and 1,119 jet fighters. Air Corps plans to decline surplus Air Corps property of 10,000 of the 39,000 planes it now has on hand, and to procure a total of 1,093 new planes during the 1947 fiscal year—a rate of procurement approximately 56 per cent of the wartime rate had down by the Air Conditioning Committee in response to the manufacture of an adequate aircraft manufacturing industry. The 31,614-plane purchase

air force, moreover with the 1939 per-war air force of 2,480 planes.

A spending establishment of 376 installations—90 environmental installations, plus 62 auxiliary fields, and 121 overseas bases. During the war the Air Corps had 1,023 auxiliary—170 on the continent and 913 overseas.

Although Gen. Carl Spaatz, commanding general of the AAF, emphasized at Congressional hearings that the key to air superiority during postwar years is aggressive development of new weapons, only a relatively small portion of the Air Corps' coming-year appropriation—\$105,544,000—is set aside for research and development. The Budget Bureau clipped \$25,000,000 off the Air Corps request for a \$105,544,000 development fund.

The major development pro-

gram will be small, according to information furnished House Appropriations Committee, involving a total expenditure of \$500,000, which will be turned over to Curtiss-Wright Corp. in development contract. Lt. Gen. Ira C. Baker, deputy commander, AAF, implied to House Appropriations committee that the Air Corps is still in the process of developing a missile. Development has not progressed sufficiently far, he said, to enable procurement of the weapon.

The Air Corps' appropriation is subdivided as follows:

For procurement and production, \$425,384,588. This compares with an \$4,617,641,132 procurement program during the 1945 war year. Of the total procurement allocation, \$411,400,000 will be utilized to purchase 1,000 aircraft, complete AAF's request for \$324,717,000 for procurement of 1,193 planes was trimmed by the Budget Bureau.

Aircraft to be acquired by the Air Corps during the coming year are 10 bombers, with figures in parentheses indicating the number of aircraft required by AC: jet-engine heavy bombers, 200 (183), jet-engine heavy bombers, 13 (41), fighter 10

MAMMOTH PROP:

The 20-foot diameter propeller built by the propeller division of Curtiss-Wright Corp. for installation on Consolidated Vultee's XB-24 bomber. It is reversible, provides for automatic synchronization, and it is de-iced by passing heated air through the hollow steel blades. Design for the giant propeller was first proposed in 1942, and the project was worked out by C-W in cooperation with Army's Air Technical Service Command. The entire job, requiring deliveries for three airplanes, has cost more than \$1,000,000.



AAF'S LARGEST BOMBER BEING PREPARED FOR FLIGHT TESTS:

First photo of Consolidated Vultee's XB-24, re-engine bomber bomber, now being readied at the Fort Worth plant.

Powered by Pratt & Whitney Wasp Major, plane has 236 ft span, length of 103 ft.

icopters, 526 (566); heavy transports, none (27); transport wing carriers, none (40); four-engine reconnaissance, 12 (17); one-engine fighters, 183 (143); rotary wing, 43 (48); primary trainers, 35 (44); basic trainers, 10 (10).

It is planned to expend \$260,000 for procurement of two types of gliders, one with an 8,000-pound payload and the other with a 14,000-pound payload. The Air Corps will cost \$1,960,000 in its production facilities for installation of new facilities at the Consolidated Value plant at Fort Worth, and \$1,650,000 for new facilities at the General Electric Company plant at West Long, Miss.

Communications and maintenance, \$502,732,406. This compares with an operations outlay of \$1,580,323,583 during the 1945 fiscal year. Largest expenditures under this category are to be \$43,642,149 for expenditures of depot and station, \$113,104,944 for operations of aircraft, and \$54,352,023 for transportation services, including \$68,308,306 for Air Transport Command restructuring with the commercial airlines for air freight services. ATC plans to contract for services with six lines during the coming year: American, TWA, Pan American, United, American Overseas, and Northwest.

ATC mileage during the next year, it is estimated, will amount to only about 50 per cent of the mileage traveled during the present fiscal year—29,308,064 of which \$608,096 was on overseas routes and \$3,900,000 on domestic routes. For the coming year, ATC mileage over foreign routes is estimated at 3,900,000 miles, and over domestic routes at 2,000,000.

Under operations and maintenance, \$23,023,000 will be expended for storage of surplus aircraft, equipment, and supplies, and \$17,900,000 on modernization of aircraft in service. The Air Corps program for modernizing planes on hand will be enlarged (July 1945-1949) was spent on modernization during the present fiscal year, despite the greater backlog of work on hand, primarily because of the longer life of planes during peacetime.

Education and training, \$4,463,000. This compares with an expenditure of \$14,471,395 for this purpose during 1945.

There are to train 160,000 pilots and 400,000 pilots, 700 flight engineers, and 1,200 aerial observers

during the coming year. Gen. Spaatz reported that the pilot training rate would be stepped up to 3,000 a year during the coming year, and ultimately to a peacetime output of approximately 3,500 pilots each year.

For its peacetime reserve of pilot strength, the Air Corps will rely heavily on the Organized Air Reserve and the Air National Guard. Organized Air Reserve has projected a 500,000-900 program for the coming year, involving 25,500 reserve pilots and 30,000 administrative and ground personnel. Air National Guard plans for the coming year call for the formation of 18 squadrons, with a total personnel of 37,352. At least one squadron will be located in each state.

Research and development, \$183,300,000. This compares with an expenditure of \$260,000,000 during the present fiscal year and \$13,015,158 during the 1945 fiscal year. The increase in research funds for the next year over 1945 does not signify an increase in developmental work, since the major portion of wartime developmental work was charged toward advancing procurement contracts. Hundreds of millions of dollars expended on development during the war appears as a "procurement" expenditure, and not a research expenditure.

The main items in the Air Corps \$183,300,000 development program for next year are \$59,400,000 for the procurement of complete aircraft, \$17,800,000 for subsonic and rocket projects, \$14,900,000 for purchase of experimental aircraft power plants, and \$12,000,000 for development contracts with private companies. Contracts will be \$12,300,000 to Wright Aeronautical Corp. for research on ram jet and gas turbine engines, \$1,900,000 to General Motors for development of TG-100 and TG-101, and \$1,700,000 to Allison Division of General Motors for research on turbo-prop turbines and test cells; \$400,000 to Curtiss-Wright for research on rocket motor; \$200,000 to Continental Motors for rocket engine development; \$200,000 to General Corp. for pulse jet engine research; and \$300,000 to Killion Corp. for rocket propulsion motor development. In addition, AC has awarded \$1,000,000 for contracts with private companies for rocket engine development but has not designated the firms to receive the contracts.

ATA Votes Research Fund for Navigation

Two important steps in the air-line study of traffic problems were taken last week by the board of directors of the Air Transport Association, which asked the status of ATA's operations committee to the air conference, thereby formalizing its activities, and voted \$37,300 for research by AUTC, the Association's air navigation-traffic control section.

Details of AUTC's program were not disclosed but W. E. Rhoades, who heads the division and the plans were made and will be presented with immediately. A C-47 is being acquired for the experiment's use.

The operations committee, of which R. E. Ferguson of Northwest Airlines is chairman, has scheduled a meeting at Denver July 16, 17, and 18, at which air-line operations conference by-laws are to be considered. Under them, the conference would have jurisdiction over all matters involving operations problems on which its members desire joint and coordinated action. Officers will be a president, two vice-presidents, and a secretary, holding office for one year.

The directors also approved immediate establishment of an ethics enforcing committee.

The board also voted to advise membership five airlines formerly member: American Overseas, Alaska, Pacific Northwest, Northwest-Alberta, and Pan American.

CAB Clarifies Decision

The Civil Aeronautics Board issued last week a question and answer clarification of its decision and proposed exception order in its investigation of non-scheduled air carriers. This clarification, which should not be confused with the development of TG-100 and TG-101, will permit the non-scheduled case (Docket 1001) the press, and other interested parties. Further copies may be obtained from CAB's Division of Information.

Show Dates Changed

Dates of both the national aircraft show of the Aircraft Submarine Association have been changed. The Cleveland exhibition is now scheduled for Nov. 15-16, at the Fetherbauer airport, Municipal Airport. The West Coast show is set for April, 1947, in Los Angeles. The date of this event has not yet been determined.

Lockheed Test Flies New Saturn Feeder

First successful flight tests have been made of the new Lockheed Saturn feeder transport, designed to carry 10 passengers or 2,000 lb. of cargo, or any combination of both. Simultaneously, the company announced that taking air security tests are being planned for a production program that is expected to turn out six Saturns a day in 1947. Price of single units is given as \$120,000.

Recent consideration is said to have been given to attaching an auxiliary operating engine, notwithstanding lighter take-off and landing costs, so that the new craft could compete successfully with war surplus planes in air services covering a network of small communities.

Class of power plants—either 100-hp Wright Cyclone or 100-hp Continental—is offered. These engines are fitted with two-blade pusher-type Aeroproducts propellers. The Saturn's top speed is given as over 250 mph, and take-off can be accomplished in 3,000 ft. The top gross weight of 10,000 lb. the craft is stated to climb 1,350 ft. min. Although it has been designed primarily for short hauls, a maximum range of nearly 2,000 mi. is also claimed.

Span is 74 ft., length 55 ft. 4 in., and height 29 ft. 10 in. The low-wing fuselage permits truck-level loading. Simplicity of maintenance has been stressed, and such items as main landing gear, landing gear doors, power windows, wing, elevators and tabs, and wing tips are interchangeable from right to left or from aisle to plane.

Davidson to Sante Fe As Operating Chief

Will direct activities of Lockheed C-47 line on western route, Riber named director of TACA.

John P. Davidson, manager of the Trans-Alberta operations of American Overseas Airlines, has been appointed operating manager for Santa Fe Airways.

Santa Fe Airways was organized by the Santa Fe railroad (AVIATION NEWS, May 12) to operate surplus C-47s with crews of veteran pilots in its Chicago-West Coast and Denver-Salt Lake City lines.

Davidson, who has been concerned over possible loss of some of their lucrative profitable freight business to air freight.



Lockheed "Saturn" takes off. First photo of company's prototype feeder-line shows rapid retracting wheel after leaving ground on its first test flight. Especially noteworthy are high wing placement, folding door passenger window, and unusually high rudder, which extended far over for maximum stability.

Least Gen. William S. Kinnison, former wartime production chief and AAF Air Technical Service Command assistant, has been elected a director of the Santa Fe Air Corp. The firm will not enter the automobile business.

Other industry personnel changes:

TACA.—Thurlock Baker, president of the Bureau of Aeronautics, has been elected a director of TACA Airways. B. A. Nelson, B. Fry has been appointed assistant director of traffic.

Kentair Air Lines.—Theodore Gray was appointed southern division agency manager. Gray joined Kentair after five years with Pan-American Airways and four years with the Office of War Information as a technical adviser on the Far East.

Chicago & Southern.—W. E. Curtis has been named assistant superintendent in charge of stations. W. E. Parker, former sales manager in New Orleans, is now agency and station manager for Chicago & Southern. He has been appointed assistant to Harvey L. Williams, executive vice-president.

Reilly-Hill Airways. has been appointed superintendent of passenger stations. P. Howard Finley is now superintendent of the business. He served four years in the AAF training heavy bomber group.

Pacific Industries.—Frank A. Sholin has been appointed director of rotary wing research. He was formerly a captain in the AAF in charge of the Ferry development unit at Wright Field.

Douglas.—George A. Hatcher, former AAF colonel, has been appointed manager of domestic military sales.

Consolidated-Vulcan.—George C. Ford has been named division manager at the Valley division at Douglas, Calif.

Flear, Inc.—Harold G. Lentner was named chief electronic engineer at East, Inc. of California.

Appropriation Bills Sent to Conferences

Confronted with a July 1 deadline for enactment, the Senate last week sped through three 1947 fiscal year appropriation bills, without major aviation alterations and sent them to conference committees of the two Houses of Congress.

(1) The Navy Department bill. A major item for the Bureau of Aeronautics—\$1,815,000 for procurement of synthetic training devices, which was added by the Senate to the House-approved bill. Appropriation of \$183,700,000 is the only item of issue in conference.

(2) The Commerce Department bill. Increases to CAB's appropriation, totaling \$43,400,000, which were added by the Senate to the House-approved coming-year CAA budget of \$66,200,000, are set in conference. (AVIATION NEWS, June 24.) Largest Senate increase was \$20,300,000 for airport development. Also to be added out in conference are deferring House and Senate provisions relating to CAB's report to the Senate on the program. It proved \$1,300,000 for the program, made it mandatory that CAB let private industry do repair work costing over \$100 per plane. Senate changed \$1,500,000 for the program, and would require CAA to turn over repair work to private industry only when the cost of materials not included in CAA's warehouse would exceed \$100.

(3) The Post Office bill, carrying \$24,800,000 for annual service, \$20,000,000 for domestic service, and \$5,800,000 for foreign service. Approved to let both the House and Senate, the \$14,900,000 annual of location at not at issue in conference.

Bikini Test Holds No Answer To Future of U. S. Warplanes

Main aviation value of *Crossroads* operation seen in data, techniques used in Pacific weather forecasts, Blandy says on secret weapon to suppress atom bomb.

By SCHOLER HANGS

To those viewing on the approach of the atom bomb drop on Bikini on "Able Day," it has become increasingly apparent that the blast will not of itself dictate trends in the future design of this nation's military aircraft.

It will be of no importance whether observation B-17 and F-4F planes, assigned to record the upward violence of the hurricane created by the radioactive blast cloud, survive or are torn to shreds.

For Bikini, the test will provide ground for superatomic planes, will the design of future American defense and offensive aircraft—long-carrying or winged missiles—be determined?

Value in Transport—Operation *Crossroads* should be of inestimable value to America's air transport, however, when the final analysis is completed of weather forecasting and operating techniques which have made Army and Navy air participation successful and singularly free from accidents.

Lt. Col. Anthony J. Form, Deputy Commander of the 54th Bombardment Group, the Army's atom bomb dropper, said: "Commercial aviation will become measurably safer if use is made of what has been learned in preparation for the atom test."

"The cost to airlines of the C.A.A. in maintaining, in addition to weather forecasting facilities now in use on the continent, variable flights of weather planes, and in providing radio channels for long range inter-office weather gossip by pilots in flight would be negligible in comparison with the cost of collection units now attributable to inadequate weather information."

Through accuracy, Army and Navy have had to use B-29's to weather reconnaissance planes, carrying meteorologists and weather instruments to obtain weather data throughout thousands of square miles of ocean area not serviced by surface reports or "rawpeds" balloons the latter named by pilots.

Multi-day Flights—The weather benefits by daily missions from Kwajalein, remaining out up to 12 hours. Their detailed information

concerning weather shifts, often missed by surface observation and balloon reports, has convinced both weathermen and bomber crews of the 1940s that airlines in the U. S. might do well to emulate the technique.

They insist that this tropical weather, erratic as it is, can not support in violence and turbulence to the weather encountered on domestic flights.

Considering that 1945 U. S. Army records project under the storm of combat were the only ones available to Joint Task Force One when it began weather forecasting for Bikini, the test showing of 75 percent success in forecasting weather 24 hours in advance at Kwajalein and Bikini, is a credit to the techniques employed.

Study Load Carrying—Equally important to airlines will be post-war Navy, Air Service and Air Transport Command load-carrying results.

There is little doubt that when they return to civilian jobs the flight crews who have brought more than a million pounds of *Crossroads* freight and thousands of passengers will be strong boosters for the development, expansion of cost of flying landing fees.

With a few minutes' pencil work, they will show that cost could be paid quickly by increased payloads, and will cite instances of C-54 transports from Okinawa with one-third more payload because 118 units and they would find the "natural center of gravity" of Johnston Island, with fuel for 1,619 units remaining because they hit Kwajalein.

Argument for Radar—A convincing argument for hastening radar installations in commercial air operations came on a P2M flight from Rongerik Island to Bikini to interview Vice Admiral H. P. Blandy, Commander of Joint Army-Navy Task Force One.

On the return, the plane hit a storm front extending above 5,000 ft. with severe turbulence. It dropped its 5,000 lb. fuel tank and after flying through rain squalls, part of the tank blew, came out over the tops of the trees and hit

on the strands of the stall, which were strewn with the wreckage of barrels, freighters and a submarine.

On landing, passengers learned that an undetected radar speedster was the hero of the storm, at the height of which the radio dial and the altimeter went bad. "If we didn't have the radar working," commented a crewman, "we would still be out there making sound." The radarsman called off the trans-derivative one by one. Time after time, he warned, "bump coming in 10 seconds," and then, "now we hit the bump."

No Secret Weapons—Admiral Blandy, aboard U. S. S. M. McKewen at Bikini and when asked about a report that secret weapons might be used in addition to the atom bomb to test their destructive force, said the idea had been given up and the test now would be only for the atom bomb. Not will the second test under way involve other weapons "unless I am so advised."

He said of the coming show test: "The stage is all set and our observers are all ready if the weather men will do his part." In rehearsal the weather men moved one forecast out of five.

Blandy has 15 targets in the lagoon around the target ship Nevada, including three concrete barges for the purpose of testing the strength of American concrete compared with that of Japanese concrete structures in atom-bombed Nagasaki and Hiroshima.

In deciding to give the altitude from which the bomb will be dropped, burst position in regard to the target or direction of bomb release or detonation methods, Blandy said: "We've got to hold some things close to our chests—things that other than U. S. citizens in most instances should not know. A complete secret about the atom bomb will be in the past sheets of staff three or four months after the second (Bikini Day) test."

Justifying the experiment and saying he would like to see the bomb and successful, he added that "it's a matter of seeing what type the ships of the future should be and seeing if torpedoes could sink the biggest ship designed since the atom bomb. But we must know the effects of the atom bomb for future designs, for we will always need our ships. As long as we use the sea we will need something to fight on."

Block Wave Force—First specific indication of the force of the atom shock wave on the dropping plane was given by Capt. Kermit Benham,



Landed in lagoon from crash over in Bikini

Week-end at Waikiki

Above the Golden Gate, the world's fastest, most available passenger plane flies out over the Pacific.

Aboard a Boeing Strato-Cruiser two days will take us from San Francisco to the afternoon—light Diamond Head the same morning. They can spend the whole of a wonderful week end in Hawaii (or London, or Stockholm) and be home again on Monday if they like.

That's just one of the amazing travel possibilities opened up by the first true super transport of the civil age. It not only flies faster—at 350 to 375 miles

an hour—but often luxuriously spacious surroundings. Passengers have the all comforts of modern life in over-cabin altitude, soft, leather perfectly comfortable seats, always kept at comfortable constant level pressure.

The Strato-Cruiser brings to outstanding light the outstanding performance, safety and dependability you would expect from Boeing—designer and builder of the B-17 Flying Fortress and the great B-29 Superfortress. Boeing Airplane Company, Seattle, Washington, Wichita, Kansas.



BOEING
STRATOCRUISER

The Strato-Cruiser's unexcelled speed, comfort and reliability will soon be available on these routes:

Boeing Airlines—Pan American World Airways, Swedish International Airlines, Northwest Airlines.

American Overseas Airlines—on which Boeing is building Boeing of these super transports.

stiff bombardier for the 348th Bombardier Group, who was killed in the Nagasaki drop. The wing-step against the underside of the wing, he says, has a flare of about 24° O's.

High Drop—For the first time in history, bombing was done from an altitude of 50,000 ft. during test runs on the Black Island Bikini lagoon. Maj. W. P. Sweetest, pilot of the nine bomber, disclosed this, but was reticent about indicating the probable altitude of the "Able Day" release. "We have bombed all the way from 55,000 down to 15,000," he said. The bomb release will be attempted on the second run, after one dry run approach to the Nevada desert 45,000 miles' distance. Time will be reduced 10 minutes in advance, from five, and at the order will go to the plane and on drops to "put on colored goggles." At one minute from the release point a radio tone signal will broadcast from the bomber. When it ceases it will mean "bomb away."

C&S Halves Time For Chicago-Houston

Airline goes from black after one quarter decline of \$600,000; DC-4 ferry service begins.

Chicago & Southern Air Lines highlighted a fast-day press and demonstration flight on one of its new heavily reinforced DC-4s by halving the Houston-Chicago air time in a one-way flight with Jimmy Doolittle aboard, and announced at a luncheon at LaGuardia Field that the company a month earlier with the DC-3 fleet there had gone into black. The first quarter decline of nearly \$100,000.

The first DC-4 went into service June 8 on some unadvertised schedule to some employers and the company additional operating experience. Harvey Williams, the company's new executive vice president, and it averaged a 38 percent load factor the first week, increasing the company's gross income by about \$150,000 a day. Regular DC-4 service began June 21 between Chicago and Houston.

One Reverse Jump—Of all of the four big planes, expected to be in service by early July, are able to meet this expectation. In fact, they should be responsible for perhaps company's monthly gross revenues by 50 percent, and passenger loads by 10 percent, Williams announced

in New York. The company then will be operating 21,000,000 passenger-miles a month.

The company's gross revenues in 1948 doubled those of 1947, and the 1950 figure will be doubled again in 1951, Williams forecast.

DC-4 is advertised as one that is the fastest and most luxurious DC-4s in service. It is deplorable that these over four years, rather than the two years desired upon by several other lines, and has spent additional money on optional comforts and services. Features on airplanes and engines have originated. The Glenn J. Martin Co. converted the aircraft. According to Williams, the longer development period makes it possible to incorporate the latest in the line over 1.10 cent a passenger mile.

Discontinue Aboard—Newcomer and radio men from Indianapolis, Chicago, Detroit, St. Louis, Memphis, New Orleans and Houston, and the airline of American West, flew with C&S officials headed by Williams, from Chicago to Memphis, New Orleans, Houston, Chicago, New York and Washington.

The kit with non-stop Houston-Chicago run, with Doolittle as the pilot, accompanied by Ned Knapp, C&S superintendent of flying, and First Officer Joseph Meeks, was made in 3 hours, 37 minutes, 59 seconds, averaging 361 mph at 5,600 ft. at 78 percent throttle, but for the low Wright-Rohr R4D engines. Top ground speed attained was 385 mph.

The plane followed the company's regular route except for the Memphis stopover. The route from St. Louis about 50 passengers and a crew of 5 were on the record flight. Regular DC-4 service time between Houston and Chicago (1,915 miles) is scheduled at 3 hours, 5 minutes.

The C&S planes represent the first commercial installation of the higher output R4D Cyclone engines turning up 1,425 hp at less weight than the standard Cyclones, and raising the cruise speed to more than 340 mph, 18 to 20 mph faster than other DC-4s. The transports also boast the first commercial installation of United Aircraft Corp.'s automatic propeller synchroizers to eliminate propeller faults. They are fitted with an "all-electronic" automatic pilot, and the first commercial airlines to use flight information radio, similar to bus and street car destination signs.

Clark Sustains Legality Of Executive Air Pacts

Attorney General Tom Clark just went to sustain the legality and constitutionality of the Bermuda Anglo-American air agreement and similar-type executive air agreements, which have been challenged by the Senate Committee on Commerce.

In a letter to the Secretary of State, Senate Committee on Commerce by a 11 to 1 vote adopted a resolution several weeks ago, declaring the Bermuda agreement illegal and unconstitutional, maintaining that the only two methods by which foreign airlines may obtain operating rights to or within the United States are (1) after public hearing and certification before the Civil Aeronautics Board. This procedure is required under the 1930 Civil Aeronautics Act, the Commerce Committee said.

(2) By treaty, which, under the constitution, is the only vehicle which can over-ride congressional law.

Confronted in this view, Clark took the position that (1) the executive air agreements are in conformity with the 1930 Act and (2) there is no requirement under the Constitution that certain type agreements, which may be made by the air agreement, must take the form of treaty.

The Attorney General based his opinion that the executive air agreements negotiated by the President are in conformity with Section 1305 of the 1930 legislation, which states that the CAB, in performing its duties, shall do so consistently with any limitation imposed by the U. S. in any treaty, executive, or agreement that may be in force between the U. S. and any foreign country.

This provision, Clark asserted, "makes it clear that the Congress contemplated the consummation of agreements with foreign nations relating to international mail aviation."

Clark maintained that other provisions of the Act, stipulating that foreign carriers must be authorized by the CAB, is subordinate to section 1305, which makes it clear that Presidential action granting foreign airlines operating rights to the U. S. through executive agreement is to take precedence over action at the CAB.

Clark also argued a case against a requirement that all executive air agreements receive the form of a treaty.

PRIVATE FLYING

'Midnight Oil' Radical Design Lightplane is Built by Rohr

Two-place, all-metal, cantilever design features complete "air control" spaces and laminar flow wing.

Lightplane fans, who have grown weary waiting for the long-promised "radical" power lightplane, may find their patience rewarded by the Rohr Aircraft Corp. of the S.O.-1, the most unconventional lightplane designed announced in a decade. It is a two-place, all-metal cantilever design featuring complete "air control" by which the surfaces are moved by pressurized air routed through ducts in the wing panels and fuselage.

Outstanding features—A fuselage reminiscent of a bowling pin with an elongated overhang and a central forward boom supporting the elevator.

Sweep-back, laminar-flow wing with fixed glides of the type to provide directional stability only.

Barred power plant intake drives a propeller for propulsion of the plane and a centrifugal air blower to provide pressurized air for the control system.

Full retractable inboard landing gear folding forward into the fuselage and nose boom with small doors covering the gear in the retracted position.

A system of fuselage boundary layer control in which engine cooling air is taken in through a counter-rotational slot which is claimed to provide considerable drag reduction as well as improved airflow to the propeller.

A radical two-control system which utilizes a series of wing ducts to operate bellows-type flap panels.

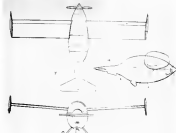
Nose reduction effected by location of the engine in the rear and elimination of the tail, thereby doing away with the "downwash" effect of the propeller slipstream.

Maximum flexibility due to location of the wing at the rear of the nose and at shoulder height.

Extremely high performance due to drag reduction and lightweight construction. Empty weight is only 650 lbs.

Small dimensions for ease of ground handling, parking, take-off and from the airport and storage in an ordinary 27 ft. auto garage. The wings fold for highway trans-

portation when the craft is towed. The control system consists of full-span slots at the 80% chord point with a constant flow of pres-



Rohr's Basic Design—The novel two-place personal plane is now being constructed by Rohr Aircraft Corp., Chula Vista, Calif. As shown by the drawing, the boom projected ahead of the cabin will carry the stabilizer in this rearward-type plane. In memory of the early morning hours spent on drops and initial stage work, Rohr employees have dubbed it the M. O.-1, the outside speaking "Midnight Oil."



sured air into the boundary layer. Rotation of the control is the lift, for example, partially closes a flap valve in the air duct leading to the left wing. This stops the flow of boundary layer air, thereby lowering the lift of the wing and moving the center-of-pressure forward. Simultaneously, the lift of the right wing is increased and the center-of-pressure moved aft, both accompanied by a differential jet effect of the boundary layer air which provides the yawing moment to turn the airplane. Longitudinal control is provided by a swept-forward surface on the nose, the elevator portion of which is also provided

with a full open pressure slot device.

This new control system has been designed to overcome many of the disadvantages of the conventional control system. The use of boundary layer control permits maintenance of lateral control at the maximum lift coefficient, provides favorable yawing moments (rather than the adverse yaw produced by differential ailerons), permits development of the theoretical maximum lift coefficient of the airfoil in flight, permits higher lift at lower angles of attack and sharply reduces the profile drag.

The M.O.-1 ("Midnight Glider") has not yet been completed and future plans are awaiting the outcome of an extensive flight test program to test the many unconventional features of the design. The plane was designed by S. F. Rayner, Technical Superintendent of the giant Her Aircraft Corp. is located at Clark Field, Calif. (just south of San Diego) and produced the fabrication of "jacking" power plants.

New Airport Guide

An airport guide for private flyers is being published by Decker Air Services, Inc., Fairfield, Conn. Printed in a pocket-size edition, the guide lists airports by name as they appear on sectional charts, and gives information regarding winds, heights, surface and direction of currents, type and location of wind indicators and landing lights, landing and take-off regulations and service facilities. All data has been checked and verified since April 1.



CUBS SHIPPED BY AIR.

Three new Piper Cubs are being carried at a time in Douglas DC-3 transports, from Spokane, Wash. to Anchorage, Alaska. Two such deliveries have been made and four more flights are scheduled in June. The planes are shipped by air out to Spokane, near Leavenworth, Pa., and then reloaded in planes of Wallace Air Service, Spokane, to Larion Alaska Distributing Company, Piper distributor at Anchorage. The larger three-place Piper Super Cubs are being flown all the way from Lark Airway to Alaska for delivery to customers. Photo shows arrival of first private delivery at Anchorage.

Piper Plane Cavalcade Will Fly to Panama

For the third time since the war, Col. John C. L. (Doc) Adams will lead a flight of 11 Piper Cubs and Super Cubs—and possibly some vintage-like personal flyers—from Leavenworth, Pa., on the first leg of a delivery flight to Panama. Flight is scheduled to start today.

All the Pipers are assigned to Adams' Squadron in a Spanish American (AFSA), Latin American agent for some 20 American firms, including the Piper distribution for that area, headed by Col. Adams and his wife.

Next week's flight, sponsored by NAA and the Inter-American Railroad, will serve as a preliminary fact-finding trip on which Col. Adams will make plans for several Inter-American Lightplane Conventions in which invited pilots from all over the United States and Central America would participate.

These trips would involve approximately a month, since solid activities would be planned at many places enroute and to allow time for ground engineering in each of the Central American countries along the route, which Col. Adams has visited the Central American Lightplane Low-Wing Zone and over which he first flew in 1939—before going overseas in combat duty in Italy and France.

Planned at next week's flight is as follows: Leave Leavenworth July 1, overnight in Lexington, Ky.; overnight in Memphis July 2, overnight in Fort Worth July 3, a bar-

becue west of Fort Worth and flight to Houston on July 4, fly on to Brownsville July 5 for the weekend, leave Brownsville July 6 and spend the night at Tampico, Mexico, July 8 proceed to Vera Cruz on to Tehuantepec, depending on flight conditions, go through Mexican customs at Tapachula July 10 and reach Guatemala City that night, fly to Salvador the morning of the 13th and on the 14th or 15th go on to Asanta Ana to meet members of the Salvador American Club, July 16, on to Nicaragua, July 18 to San Jose, Costa Rica, and July 22 to Panama City by way of David, Panama.

The first Cavalcade will follow the same route, with about the same time as that allotted for the coming delivery flight. Though the exact date remains to be set, it will be scheduled for sometime between November and February. Inquiries regarding the Piper Cavalcades should be addressed to Adams at Box 2070, Anson, Canal Zone.

Seattle Lightplane Dealers Plan Sub-Assembly Plants

With a backlog of several hundred orders for light planes by Seattle professional men, business men and service men, several Seattle aircraft dealers are planning the establishment of sub-assembly plants.

The Washington Aircraft & Transport Corp., distributor for DeSoto and Aerovox, already has received and assembled its seventh carload of planes and plans to establish a large assembly shop as soon as required production of lightplanes is obtained by DeSoto manufacturers. H. William Baker, sales director, is in charge of the assembly program.

Northern Aircraft Co., which distributes Cessna and Mooney aircraft through the Pacific Northwest, Canada and Alaska, has announced it will operate an assembly plant at Boeing Field. Production in that plant eventually will reach 35 to 40 aircraft a week, it is estimated by Arthur Johnson, president. Cedar's Flying Service will assemble Piper Cubs for sale in the Seattle area, moving parts in a freight building and assembling them as orders are received.

2,265 Lightplanes Shipped

Lightplane manufacturers shipped 2,265 aircraft in April, or 34 percent of all conventional aircraft delivered, the Department of Commerce has revealed. This total was compiled from reports of 11 companies. This left a backlog as of the end of April of 33,351 aircraft.

Use Military Devices Is Loosening Advice

Suggests tailhook-winch skid and home-made winging gear to increase utility of lightplanes

Possibility of utilizing a personal plane operation in various landing and take-off aids developed for the Army and Navy has been suggested by Grover Lowrey, special consultant to the National Advisory Committee for Aeronautics.

Addressing the light aircraft meeting of the Institute of the Aeronautical Sciences in Detroit, Lowrey presented first an skid take-off. "A small cable operated by a control drum run by an electric motor, and giving an amount of as low as half a 'G,' would get the skidway lightplane off in an amazingly short distance—well under 200 feet and not be in the least uncomfortable to the occupants."

"Arent-Gear Suggested"—In addition, Lowrey declared, "it would not be difficult for this same skid with the tire field to have his gardener or with set up a simple door or fire escape—extending a landing device that would catch a hook on his plane which would be similar to a skid landing device."

Lowrey put forth this suggestion in connection with statements on the problem of sufficient landing fields in severe wind-up areas of personal planes. Probably a more important factor slowing down establishment of airports is the noise of piston. He pointed out that what is needed is a large number of support facilities in the "neighborhood where we live." This cannot be done unless steps are taken to cut down on noise.

What is being done in that direction was summed up by Dr. Theodore Theodorson, of NACA's Langley Memorial Laboratory. He predicted that as a result of NACA's experiments, 50 percent noise reduction could be fashioned in the near future, and that the 50 percent reduction was entirely in the realm of possibility by the use of a propeller with a noisy in eight blades traveling at a low rotational speed. This type of propeller is the only means of reducing the sound level of a plane, he noted.

"Need More Speed"—Increased utility of personal aircraft depends upon increasing the speed range—the ratio of high speed to level flight to minimum speed—in the opinion of Walter J. Swenson, chief engi-



AERONCA CHUM

First view of the new Aeromac Chum, a low wing, spin-proof two seater with simplified controls, on display at the Birmingham, Ala. Air Council. Charles Smith (in the center) and Robert Duran (right foreground), both of Aeromac, demonstrated the new Model.

neer for Piper Aircraft Corporation.

His reasoning is that "for other than sport flying, justification for airplane ownership is only possible for the individual who has the time and necessity for making frequent use of one several hundred miles in length." Thus the importance of increasing speed.

Difficultly, he pointed out, in that generally greater cruising speed means higher landing speed, and this brings up again the lack of sufficient small airfields. He therefore suggested more widespread use of flaps or air brakes.

Taylorcraft Seeks Plans

In a move to speed production and delivery, Taylorcraft Aircraft Corp. is seeking for additional assembly plants, with locations being considered at Tulsa, Okla., and Fresno, Calif. If successful, as ex-

isting the new facilities, the company says its output could be raised from 30 to 50 a day.

Taylorcraft would like about 100,000 sq. ft. at each new location. In Tulsa, efforts are being made to secure part of the former Douglas bomber plant. Each of the final assembly plants would employ from 150 to 175 persons.

Industry Examiners For CAA Mech Tests

In a further move to speed up and decentralize its certification procedures, CAA has announced a plan to designate from the industry examiners for airplane and engine mechanics. Goal is to have 500 mechanic examiners by Jan. 1, 1945.

Need for the new examiners is pointed up by CAA's statement that since the end of the war, applica-



USED PLANE LOT:

Max Turner, New York used car dealer who used to sell himself the Buick Wildcat, now calls himself the Flying Fisherman, and is selling war surplus buccaners (like the BT-13A pictured here, certified for civil operation) on his car lot ready to fly away.

since the machine certificate has been coming in at the rate of about 500 a month, double previous rate.

The machine examination will be checked and recommended by CAA inspectors in field offices. When designated, he will be authorized to change a maximum fee of \$750 for each examination given. While the written portion of the examination must still be completed by the applicant under supervision of a CAA inspector, the designated examiner will conduct the practical and oral tests. Most of the designated examiners will be spot-checked by CAA inspectors.

Requirements for designation are: At least 21 years old; holder of mechanic certificate for at least three years, with five years desirable; active in capacity in which he is to be designated continuously for three years; be an experienced emergency at a fixed base of operation and have necessary equipment to give examinations; good record with respect to ability and judgment as mechanic, and be highly respected in community.

The machine examiners system is the third of CAA's means to delegate the responsibility for some of its inspection and certification to industry. Pilot examinations and aircraft inspections are already performed under such an arrangement, and CAA announced last week that it has now appointed 335 aircraft inspectors, a rise of better than 180 a month since appointments began in March.



SWIFT LANDING STRUT:

Main landing gear strut of the Gluec Swift personal plane is being manufactured by Adel Precision Products Corp. and is designed to take a hard land better of 6.32 on a 1,750-lb. airplane. It is especially made for lightplanes.

Briefing For Private Flying

TAKEOFFS AT ALTITUDE—Some approximate calculations governing length of takeoff at various temperatures have been issued by the Mutual Aircraft Conference, Chicago. For each 80 degree increase in temperature, the pilot should allow 25 per cent more runway for takeoff. Example: A plane that takes off in 500 ft. at a 50 degree temperature, will need 1,100 ft. at 69 degrees or 1,384 ft. at 104 degrees. Likewise rate of climb should be estimated at least 25 per cent lower for each 40 degree increase in temperature. Increase in temperature also increases the plane's stalling speed at a rate of about 2 to 3 mph for each 40 degree temperature rise. WAC also cites the case of a pilot who landed with difficulty on a high-altitude landing strip in the mountains, in the summer, although he had taken off speedily with ease from the strip during the previous winter. He finally got his plane out by an early morning takeoff when temperatures were fairly low, by using every foot of the runway, with a lightened load, and with a change in wind direction which allowed him to takeoff away from the principal hazard, some tall pine trees.

THE WINSTON LINE—For the first time in recent months, Consolidated-Vulture has mentioned its full personal plane Winston line again. Winston II, now produced in charge of sales, says the Winston line is to include, besides the "Voyager 350" four-place plane now in production, a low-cost two-place plane; a three-place plane, the five-passenger "Sky Coach"; and a two-engine executive transport to carry five or six. First announcements of the prospects like more than a year ago, were afterwards left-poled because the plans were not ready for production. The latest announcement may mean that at least some others of the line are ahead ready for quantity production.

WEATHER MINIMIZER—A suggestion thrown out by Col. Ben S. Kelley, technical director of the AAF Air-Weather research base in Wilmington, Ohio, that different weather minimizers could be applied to different types of planes, could well bear further investigation by CAA and CAA safety experts looking toward a modification of existing regulations. Col. Kelley points out that current minimums for ceiling and visibility are the same for a Piper Cub landing speed 37 mph as for a B-29 which lands about three times as fast. He suggests that planes with slower landing speeds might be classified under a regulation which would permit them to operate safely with lower ceiling visibility and ceiling, if they were flying at slower speeds and had low landing speeds. All at which points again is an suggested future helicopter as the ultimate private aircraft since it can proceed at very slow speeds or even back up or fly sideways in event of obstacle, and one land at zero mph forward speed, making it usable in weather conditions which would be entirely unsafe for conventional airplanes.

ROUNDER TRANSCONTINENTAL—In the same category was the flight started by Pan American's First Officer James H. Scudake, his wife and two small sons, flying a Piper "Super-Cruiser" from New York Flushing airport to Seattle, and return. They expected to make eight stops at Detroit, Omaha, Rapid City, St. Paul and Minneapolis, New, before arriving in Seattle. Their Scudake wants, among other things, to look over the new 50-passenger Boeing "Stratocruiser" which are due to go into service for Pan American sometime in 1947.

VACATION FLIGHTS—Capt. Leopold Achermann, 21, former ATC pilot in Egypt, India and Africa, and his wife, left Boston recently on a two and one-half month lightplane flight, expected to include in its stops every state capital of the nation. Flying their own Ameco, the Achermanns had endorsements of the Boston and National Amateur Associations, and earned invitations from Governor Charles M. Dale, of New Hampshire, in behalf of the New England governors, to enter governors' homes to visit New England by air. They planned to return to Boston by Aug. 17. They financed the trip themselves with the expectation of recouping at least part of the investment by showings of movies to be taken enroute.

—Alexander McBarley

test pilots on the ground



Telemetering — the instantaneous transmission of flight information to instruments on the ground — has opened new fields for obtaining scientific data on objects in flight. Whether piloted or pilotless, their exact behavior can be accurately determined during the entire flight, providing the engineer with information for further research and development. Combined with newly developed electronic control devices, this achievement of Curtiss-Wright research represents another advance in the era of supersonic flight.

FIRST IN FLIGHT
CURTISS-WRIGHT
Aviation Division
COLUMBUS, OHIO

Developing Flight to Meet the Future.

PRODUCTION

Minneapolis-Honeywell Making Bid to Stay in Aviation Business

Control manufacturer expands as plane speeds out expanding capacity of human guidance; autopilot will be in with automatic landing system.

Disclosure last week by Minneapolis-Honeywell Regulatory Co. of its C-47 "Flying Laboratory" jammed with devices to test practically all aircraft control systems focuses industry attention on a relative newcomer which is making an earnest bid to stake out a large market in a field long dominated by old-line aviation firms.

The test plane—not a new idea by any means—is merely a small piece of a much larger pattern. Honeywell was given an start in the large-scale production of aeronautical devices by the war. It is one of the few great non-aviation industrial companies to continue in aviation after the war. To its experience as a 61-year-old manufacturing concern it has added a concept which while not revolutionary is distinctive enough to be noteworthy.

Fast Reaction Control—In its essence, that concept is in both military and commercial planes is soaring speeds to a point where human abilities and functions can no longer be relied upon with certainty. Honeywell's wide-ranging industrial business is based on automatic controls for machinery which requires a type of steady, constant regulation which human actions cannot perform. To Honeywell, its aeronautical devices are mere extensions of its industrial controls business.

Currently the company is engaged in research and development of 31 aircraft control systems. Its equipment already is in use in DC-3s, DC-4s, Boeing's C-47 and Republic's Airacobras. The Honeywell system will be used in the B-50, Navy's XR-35 and Consolidated Valiant's soon-to-fly XR-36.

During the war, Honeywell's automatic pilot was standard equipment onAAF heavy bombers and on some Navy planes and aircraft

of Canada, Britain and Australia. Some 25,000 autopilots and radio-remote systems were produced during the war. Work for the service is continuing.

Key Featureless Market—Facing the postwar commercial market, Honeywell's main item is its electronic autopilot. It weighs 60 lb., but is designed to control all existing planes, as well as those on drawing boards. It can be put into operation by pushing a button on the control wheel. It can be coupled to another device which, utilizing CAA's instrument landing system, has landed planes with the pilot's hands off the controls.

Other strings to Honeywell's bow are:

Electronic fuel gauge system, accurate within two percent under all conditions of attitude and temperature; fuel systems no moving parts. Electronic turbo-regulator which permits single-lever control of any

number of turbo-superchargers, and automatically maintains selected manifold pressures regardless of altitude or temperature.

Electronic cabin temperature control system which compensates for outside temperature changes even before they are felt within the airplane.

14,000 Employees—The company among these devices as a wedge into a new field has for years been the country's leading manufacturer of heating and ventilating controls. With more than 14,000 employees, it has plants in Minneapolis, Chicago, Wabash, Ind., Philadelphia, Toronto, London and Stockholm. Even in such a quiet company, the wartime aircraft control production, totaling \$160,000,000, was not small.

How far down that figure will drop in a postwar economic period, company officials have not yet estimated. But they are vigorously engaged in trying to keep it, as high as possible. A separate division has been established for the aeronautical products. It is housed in part of a large, new wing being added to the Minneapolis plant.

A separate sales staff has also been set up for the Aero Division. At its head, with the rank of vice president in Minneapolis-Honeywell is Alfred M. Wilson, an M. I. T. graduate engineer, who set up and directed the Aero Division during the war.

An example of what Wilson and her division are up against was the announcement by Boeing Aviation



EDO PRODUCTION

According to an output report of 43 Model 1216 lightplane fleet a week, Edo Aircraft Corp., College Point, N. Y., is experiencing an actual output seven times that of any previous year. Up to the middle of June, company had turned out more all-metal lightplane fleets than in any previous one-year period.



the
four-most
side-by-side
personal
plane

FOUR—1300 miles in 100 miles.
High speed in the Super 1000 light plane, 1300 miles in 100 miles.
Speed of the Super 1000 light plane, 1300 miles in 100 miles.

SEVEN—seven aircraft.
Seven aircraft in the Super 1000 light plane, 1300 miles in 100 miles.
Seven aircraft in the Super 1000 light plane, 1300 miles in 100 miles.

SEVEN—100 days.
Seven aircraft in the Super 1000 light plane, 1300 miles in 100 miles.
Seven aircraft in the Super 1000 light plane, 1300 miles in 100 miles.

SEVEN—Seven aircraft.
Seven aircraft in the Super 1000 light plane, 1300 miles in 100 miles.
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The Taylorcraft plane is as down-to-earth as the four most important words, it is the plane that gives better, faster, higher and longer. It is the plane that really looks in any field or pasture. The words the side T can't be called the "best buy in the sky" by man or machine.
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Profit of \$4,809,738 Reported by Lockheed

Less war contracts accrued and backlog of \$118,000,000 study to show firm offers.

With settlement of terminated war contracts slated to have been completed in full last week, and after wartime readjustments already made, Lockheed Aircraft Corp. can concentrate on a backlog which Robert E. Gross, president, has reported to be nearly \$118,000,000.

In his statement to shareholders on the company's operations for the year ending Dec. 31, 1945, Gross revealed that Lockheed had earned \$4,809,738, after taxes at \$2,352,912, on sales totaling \$417,813,300. With sufficient reserves, Lockheed was able to transfer to current surplus \$1,466,826.

1945 Sales Slump.—While the 1945 sales were considerably below the 1944 figure of \$611,537,773, the amount transferred to surplus was \$947,080 above the 1944 item.

During 1945, Lockheed increased payments of \$90,000,000 on termination claims of \$189,899,549. An additional \$36,501,452 has been received during the current year strengthening the company's financial position is the fact that it has collected on all of its excess profits tax refund claims, amounting to \$4,857,937.

Taking advantage of another wartime law regulation, the company has fully depreciated its manufacturing plant facilities. The company's total facilities—built at a



BRABAZON / TRANSPORT:

Model of the eight-engined Brabazon 1, giant British transport—prototype of which is under construction by the Bristol Aeroplane Co. Passenger capacity will be 224 on short trips, 180 on daytime trans-Atlantic flights. Although the prototype will be powered by eight 1,500 hp engines arranged in pairs, later versions will be jet propelled or utilize turbo-propeller units. (British Information Service photo.)

cost of more than \$100,000,000—were now carried on the books at less than \$4,000,000.

Pilgrimage Orders High.—In common with that of other manufacturers, Lockheed's backlog is largely in orders for the Army and Navy. It has orders amounting to \$146,000,000 for the P-48, the P-5V patrol bomber, and the Navy transport plane Comstarline. Its commercial backlog, for Constellation, totals \$45,430,000.

While Lockheed declared a 50-cent dividend payable June 28, Gross stated the company would not consider the matter of dividends in the third quarter, but reserve judgment until the end of the year.



TUDOR PRODUCTION LINE:

At Drivers to be behind in transport production, as it is somewhat overhauled, the situation is being corrected as it is shown by the new more of the Tudor I production line at the V. R. Row & Co. plant. The new shown in this photo, and 13 more are due to be completed for British Overseas Airways Corp. (British Information Service photo.)

Lascombe Profit-Share Plan Will Split 33 Percent Midco

A profit-sharing plan under which nearly 1,000 employees will receive one-third of profits before taxes has been sponsored by Lascombe Airplane Corp., Dallas, Texas. Plan is retroactive to April 1 of this year.

Division of profits will be made quarterly. Employees share will be credited to a bonus account, and payment will be made at the end of the quarter, provided the bonus is one percent or more of the total payroll for the period. If the bonus is less than that, the profit is carried forward and the amount added to the payment for the following quarter.

Payroll, for purposes of computing the one percent, will include all earnings such as overtime, vacation and shift differential pay.

Short Seaford Amphibian in Five-Place Field

A five-passenger, twin-engined amphibian is being planned by Maritime Short Seaford, manufacturer of the buoy tender-like flying boats. The new plane, designated Seaford, will be powered by two 108 hp de Havilland Gipsy Queen engines. Weight of the projected craft is calculated at approximately 6,000 lb.

With a pilot and five passengers, the Seaford is designed to cruise 340 miles an hour at about 130 mph with 185-mph top speed.

FINANCIAL

Airlines Raise Sights on Capital Requirements for Next Five Years

Billion dollars may be needed due to increased operating costs and disappointments in net earnings; shift in balance of business volume causes big need for small company financing.

The airlines have raised their sights on new capital requirements. As much as one billion dollars may be required in the five-year period through 1950. This compares with the estimate of \$300 million for the domestic lines and \$250 million for the international services developed in a financing study released by a group of banks and insurance companies early in 1945. The increase of about 23 percent in these estimates is due to the unexpected rise in working capital requirements plus the disappointment in the current growth of net earnings.

The accelerated demands for additional capital developed through a combination of causes. The conversion of army planes, those still in use and those being converted, Lower passenger and mail rates have reduced the amount of the current plans originally expected from increased traffic volumes.

Shift in Balance.—A shift of balance in the total volume of business handled has necessitated larger financing programs by many of the smaller carriers. About three years ago, some 78 percent of the total domestic business was handled by four major lines. With the exception of many route segments of the regional carriers, increased loss requirements of the latter automatically require greater financial aid.

All of the air carriers are engaged in extensive promotional programs to develop their services as an intense competitive struggle further kept within restrictive rules by war restrictions. Such programs necessitate heavy expenditures.

American Airlines recently obtained some \$70,000,000 in what appeared to be the largest piece of financing for any one airline. These funds were to help the carrier meet its budget of \$60 million for 1946, 1947 and 1948. It is noteworthy that American's prospectus states the extent that the present financing, plus normal depreciation and other reserve accruals and retained earnings could not meet requirements. Additional borrowing may become necessary.

Stake Appears "Sticky."—Unlike previous American preferred stock offerings, the current sale appears a little "sticky" with stock reported still on the "water" of a number of investors' desks. The current series of 3½ percent convertible preferred was sold to the public at \$100 per share of which the company received \$100.

This stock is being taken in expected proceeds and various available at or below the offering price. The preferred is convertible into common at \$20 per share. With the junior equity selling around \$100, the stock is little more than a higher price for the preferred. On conversion, if effected, an additional 1,064,750 shares of common would be created and would represent the 5,615,549 shares presently outstanding.

When C. C. Smith exercises the option, he holds on 230,000 shares at \$11.70 per share, more common stock would be created. Giving effect to all of these changes, a total of 3,467,500 shares of common stock will be outstanding, by far the largest volume of shares and exceeding that of many other domestic corporations.

Sticking Fund Established.—American's current debenture issue, issued to the extent of \$40 million, is non-convertible. A sinking fund

is provided, but does not begin to operate until 1951.

It is an interesting contrast to the American debentures carry a 3 percent coupon. In December, 1945, when TWA sold \$10 million in debentures payable to the Equitable Life Assurance Society, the interest rate was also set at 3 percent.

Late in May of this year, however, when TWA obtained an additional \$10 million credit from the same source, the interest rate was reduced to 2½ percent. As both the American and TWA debentures are virtually the same as all major airports, it is unexplained and non-conformable, it is self-evident that the TWA credit was obtained on far better terms.

PCA's \$10 million 3½ percent debentures, issued in September, carry a higher rate, but also had to be accelerated considerably by a conversion feature. Should there be any material appreciation in the price of PCA's common stock, the company must then have to have retirement of the same through the conversion note.

Other Finance Plans.—There are other major financing plans by the air carriers in the immediate offing. United Air Lines recently advised its stockholders that the management expected to rely on bank loans to meet the \$82 million commitments for new equipment and expansion planned during the next 18 to 24 months.

Chicago & Southern Air Lines has filed a registration statement with the Securities and Exchange Commission, covering trust certificates for 170,000 additional no par common shares. About \$1,000,000 may be raised in this manner and will then be used to develop expansion involved in its new routes and the construction of new executive offices in Chicago. Chicago & Southern is the only air carrier resorting to the use of voting trust certificates. This is a device to insure control in the management interests.

Northwest Airlines may be expected to announce its financing plans very shortly. It is anticipated that equity financing will be used by the company in preference to bank loans.

As the CAB makes known its new route awards, additional financing plans for many of the air carriers will be crystallized to activate the new operations.

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SPECIAL AIR SERVICES

CHARTER NON-SCHEDULED INTRASTATE

Unscheduled Operators Charge Airline 'Monopoly' Freight War

Institute of Air Transportation asks Congress to cancel air mail contracts; wants permission to connect with rail, steamship companies to haul cargo mail and passengers by air.

More than 70 "fixed base air carriers" members of the Institute of Air Transportation, declared war on the scheduled airlines and asked Congress last week to back air mail business with a year to their credit, revitalize, restructure, and possibly allocate to fixed base operators.

Pleading the outcome, the Institute feels that fixed-base air carriers—a designation it prefers to "non-scheduled"—should be permitted to connect with railroads and steamship companies for transportation of mail, passengers and cargo within their respective areas.

Speaking in behalf of fixed base air carriers "from all parts of the country," the Institute requested immediate hearings on need for legislation allowing this type of service. Pleading the outcome of these hearings, at which it wishes permission to testify, the Institute suggests adoption, with some exceptions, of the recommendations by CAB members in the Board's non-scheduled investigation.

Monopoly Charged—LAT's proposal, accompanied by the Institute's own version of its membership to the order comprising non-scheduled carriers from economic revolution, was submitted to CAB, Congress, the President, and other government agencies. The resolution in which they were embodied accused the 15 scheduled airlines of attempting to monopolize the entire aviation field and encroach on the field of air freight "powered by the fixed-base air carriers." Certification of non-scheduled and currently originally issued to the scheduled airlines, LAT says, did not contemplate transportation of air freight as such.

Furthermore, the Institute contended the scheduled lines are subsidized by their air mail contracts despite their financial soundness, and "are charging the U. S. government for the transportation of such mail and parcel post at a rate both exorbitant and unfair to the taxpayer."

Propose 3 Civil Rule—Convention was expressed that fixed base air carriers could fly around for 3 cents a letter at a reasonable profit, although that submitted, long ago when it is recalled that that Civil Rule already has been (ANATION News, March 25) but all long fixed base class mail could now be carried by air at a profit, but that the margin would be sufficient to cover losses in other classes that handling and distribution, as well as transportation, are heavy expense items.

Lawrence J. Carr, president of the Institute, said its members also are convinced that "air parcel post can be flown now, and not years

hence as recently suggested, at exorbitantly lower rates and also make a profit for our carriers." In the absence of an air parcel post, the rate on airmail packages is 10 per cent, same as regular airmail.

Such the members and Carr's statement placed heavy stress on the fact that most of the personnel and management of the fixed base carriers are veterans.

CAB Attacks—CAB's proposed amendment of the non-scheduled exemption order, LAT contended, would make it impossible for most fixed base air carriers to operate profitably, and would prevent collection of general business, prohibit advertising of flight information at informing the public about services offered, limit flights to 50 per month between any two points, restrict operations to North America, and prohibit all over-water international flights.

The Institute's suggested classification and exemption of fixed-base air carriers, offered as a substitute for CAB's proposed third amendment to the exemption order (Section 381 of the Economic Regulations), would allow a maximum of 30 round trips a month or 600 flying hours, wherever in greater, on passenger flights between points presently served by scheduled airlines, with no economic restrictions on all-cargo flights except those relating to fuel consumption.

The carriers also asked to be allowed to advertise their services, obtain general business, and operate without restrictions on international flights. Other developments:

Service Discontinued—Flying above the 10,000 feet in a carrier service at Denver, H. V. Marshall, Airport for a time, was discontinued service by

Fits in the Fokker—The Institute of Air Transportation, New York, ran a full page ad (right) in N. Y. Times to solicit public support for its campaign to have the fixed base air carriers in America. The reader was invited to fill out and mail to the chairman of CAB the coupon in the lower right hand corner asserting that "I agree with the FIXED BASE AIR CARRIERS proposal AIR MAIL and AIR PARCEL POST recommendations. I don't agree with the regulations they request which will enable them to 'KEEP 'EM FLYING'." The ad expressed the belief of fixed base air carriers—air transport operators of California, New England air carriers, Coastair Carriers Association of Florida, Midwestern air carriers and the East Coast fixed base air carriers.

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New England Decision of CAB Authorizes Seventh New Feeder

Wiggins Airways, Inc., gets certificate for routes radiating from Boston and Albany to six states; Colonial, Eastern and Northeast get new stops, extensions.

The nation's fast-growing feeder network added a seventh carrier last week when E. W. Wiggins Airways, Inc., Norwood, Mass., was authorized for routes radiating from Boston and Albany into six states.

CAB's action in the New England case—fourth of 11 regional proceedings—also authorized new intermediate points and extensions for the routes of Colonial Airlines, Eastern Air Lines and Northeast Airlines.

Significantly, the Board denied the last applications proposing helicopter carriage of persons, property and mail as "passenger." Declaring that the two helicopters previously type-certificated can carry only

small useful loads, CAB said the capacity of these craft does not approach that which would be necessary to carry out the plans of the applicants. In its current stage of development, the Board stated, the helicopter's principal utility would appear to be in carrying mail between a city center and points in the metropolitan area of that community.

Wiggins Service Listed—The Wiggins system will serve parts of New York, Connecticut, Rhode Island, Massachusetts, Vermont and New Hampshire, but will not include New York City as recommended by the examiner in the case. From the standpoint of mileage, Wiggins probably will be one of the smallest

local carriers certificated. However, the 22 cities on its routes include seven with populations over 100,000 and several others closely approximating that figure.

Wiggins is the first of the new feeder lines which can prove to CAB the feasibility of effectively local service in an essentially urban area. Organized in 1936, Wiggins since 1942 has conducted charter service, pilot training and other basic-line activities in New England. During the war, the company expanded its pilot training program and converted some of its facilities to building aircraft parts as a sub-contractor. Wiggins owns hangar and maintenance facilities at Norwood and East Boston Airport.

Five Reach 14—Reitering their criticism on the use of non-regular Beechcraft Model 18 equipment, Wiggins officials estimate that any of its seven scheduled plane models will be necessary to break even. Company officers include Joseph Gerbasi, president; Harold E. Shaw, executive vice president; and Charles R. Cowan and Charles H. Scott, vice presidents.

Decided authorities in the New England area domain are as follows:

Wiggins — Three-stop northeast route to carry passengers and mail between Albany and Boston via Springfield, N. Y.; Littleton and Manchester, N. H.; and Lawrence, Mass. Routes Albany and Boston via Adams-Norfolk Adams, Providence, and Lowell; Mass. between Albany and Boston via Springfield, Worcester, and Framingham, Mass. Between Albany and Boston via Springfield, Worcester and Framingham, Mass. Providence, R. I., and Taunton and Norcross, Mass.

Canadian Airports

More than \$1,000,000 is being spent this summer in improving country and airport services along the Stikine River system in northwestern Canada. A new airport is being installed at Lac la Poudre, Alberta, to eliminate the long gap between Stikine and Fort McMurray, Alberta, and one stop ahead in sandy before winter. At the booming gold mine camp of Yellowknife, on Great Slave Lake in the Northwest Territories, a second stop is being built and a standard radio range is being installed. Airports are being built to service on the route northwest from Yellowknife to Norman Wells late of the Canal project during the war, where an RCMP photographer detachment is working.

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The advent of Constellation to its parent line of TWA's new jet. Maximum payload 14,000 lbs. (maximum weight 14,000 lbs.)

THE WORLD'S BIGGEST 4-ENGINE FLEET brings the world closer home!

Faced by the new, streamlined Constellation, TWA's record fleet of 4-engine transports offers faster, more dependable schedules cross country or overseas.

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Paris, for instance, is now only three quarters of a day from its United States via TWA — and Iceland, still more.

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Boston City New York 2 hours 10 min.
Los Angeles New York 5 hours 45 min.

ABROAD

New York-London 10 hours 30 min.
New York-Panama 12 hours 10 min.

than half a day. While Geneva, Rome, Athens and Cairo can all be reached in proportionately record times, TWA passengers can spend a business morning in Chicago and arrive in New York in time for dinner, or leave New York after breakfast, spend a full afternoon in Chicago and be back in New York that evening.

Not are these mere promises for the future. They are examples of the service TWA already offers, within this country and all the way to Rome. Soon, like some other TWA routes will reach even to India and beyond.



New England Decision: Feeder routes authorized to E. W. Wiggins Airways, Inc., Norwood, Mass. and additional services granted Colonial Airlines, Eastern Air Lines and Northeast Airlines are shown in this map of CAB's New England area authorization.

Eastern-PCA Feud at Hearing On Boston-New Orleans Route

Rockefeller charges of PCA pressure on city officials stir counter-charges citing \$100,000 annual fund to discourage competition on established routes.

It-oversees hearings—evident in the first day of the Boston-New Orleans route hearing—broke out into an acrimonious series of charges and counter charges between Eastern Air Lines and PCA in later sessions of the proceeding.

Speaking under oath at its hearing by several cities in the Southeastern states, Eastern charged that the commissioner's representatives were not entirely spontaneous. Capt. R. W. Rockefeller, EAL president, said he could not recall any case in the history of the Civil Aeronautics Act where there had been so much pro-foreign agitation and publicity propaganda.

"City governments, Chambers of Commerce and prominent local officials of almost all the cities have been subjected to requests and entreaties calls by jockeying officials of airports in this proceeding who are seeking to destroy Eastern's service," Rockefeller

asserted. Later he said he had PCA alone in mind when referring to pro-foreign agitation.

Eastern Promissory Petition—When EAL attorneys attempted to question PCA on the alleged "agitation," hearing examiners ruled that the information sought was not material. Thereupon, EAL invoked a petition to the Board outlining the petition in ringing terms, and PCA proposed an equally strong rejoinder. Neither petition was filed officially with CAB, but both were circulated among the parties at the hearing.

Rockwell's petition held that PCA had conducted a flagrantly abusive campaign of "bulldozing," made inflammatory and misleading statements to the press, spent substantial sums both to secure local support by parties, favors, packets and dinners and to make ill-will against existing carriers.

EAL's reply accused EAL of

making unwarranted and untrue charges and of instigating a vicious and unprovoked attack designed to poison the Board's mind. Refuting the attack, PCA said there was on the record positive evidence that EAL's openly avowed policy has been to spend not less than \$400,000 annually to prevent competitive routes being established by the Board.

Rockefeller Testifies—In other aspects of Eastern's case, Rockefeller testified: (1) EAL is subjected to more disparaging and publicizing competition than any other carrier; (2) All carrier attempts to improve service have been handicapped directly by inadequate airports and the "no-show" problem; (3) The industry has even ordered new equipment and to a degree that some of the manufacturers are known to be wary as to whether they will get their money; (4) EAL probably will not get its Martin 40's before April; Rockefeller said he would like to see a year's moratorium on new route applications until the airlines get their new equipment, settle down and level out. To combat the no-show problem, he suggested that a percentage penalty be imposed when money is refunded if the ticket has not been cancelled a certain number of hours before.

Delta Air Lines' president, C. E. Wickham, following PCA and EAL officials to the stand, declared that two airlines, Eastern and American, are attempting to block off competitive service from the South to Washington and New York. Referring to the profits and route weakness of the two larger carriers, Wickham said they could well stand the slight diversion of traffic which might result from a Delta route into New York.

Air Freight Case

Earlier in the Air Freight case (Docket #18) have been commenced to observe Civil Aeronautics Regulation requiring all applicants to route every terminal and intermediate point on routes applied for. Examination to the time recognize that the Board may find some far less rigid route concepts in exclusively cargo or cargo-mail operations. They peak out, however, that in these operations can be up to active and all scheduled (whether named or not) within a specified area or all points within a designated radius of a main route, cannot be certificated under Section 445 (c) of the Act.

Senate Committee Snubs Truman Policy

A majority report of the Senate Foreign Relations Committee, recommending ratification of the International Civil Aviation Convention, states that approval of the Convention does not signify its endorsement of the National Commerce Air Agreements the President has endorsed.

"The consideration has been given to the ratification of the Senate Committee on Commerce which questioned the authority of the executive branch to enter into such important agreements as international air transport agreements without submitting them to the Senate in the form of treaties," the report stated. "In the discussion before the Foreign Relations Committee, it was made clear that the committee's approval of the convention is in no way constituted approval, either directly or indirectly, of any of the other agreements."

Meanwhile, at a Republican Senate conference, minority party members agreed to support Sen. Owen Brewster (R., Me.) in opposing ratification of the Aviation Convention at this time.

Brewster, while endorsing the Convention, still maintains that Senate ratification would constitute approval of the Bermuda Anglo-American and other exclusive aviation agreements, since the President's message urging ratification of the Convention also served notice that the executive branch of the government will continue to negotiate air transport rights with other nations, via executive agreements.

Hawaiian Sugar Interests Alarmed by Airborne Pests

Alarmed by an influx of insect "ship-bugs" on planes arriving in Hawaii from other Pacific points, the Hawaiian Sugar Planters Association has sent a note to Washington to ask what government officials about establishment of Federal quarantine stations on such outlying islands as Wake, Canton and Johnston.

Conservancy H. Wightman, association secretary, said California agricultural leaders had expressed concern over the situation. In-



PCA adjustable WORK STAND:

PCA is replacing hard stands in its shops and hangars at National Airport with this Universal Work Stand. Designed by PCA and built by The Glenn L. Martin Co., the stand has some 400 adjustable "columns" which permit adjustment of platform height from 6 to 20 ft. A portable hoist which can be carried by plane to any station and used to replace engines, also is being used.

crease in Pacific air traffic, he said, have made ineffective the present method of transporting planes in transit and on arrival in Hawaii.

Eastern Asks CAB To Reconsider Case

Eastern Air Lines has petitioned CAB to reconsider the Latin American case, since the third draft of EAL's request for a Florida-Canal Zone route tends to appreciate the present monopoly of Pan American Airways and its subsidiary, Pan American-Canal Airways.

The decision, Eastern said, sharply discriminates against the eastern half of the U. S. and places EAL's system behind an international barrier at Miami. Eastern claimed that while it had developed much of the Latin American traffic it had been granted a mere portion of new route authorizations—1,689 miles. PAA's portion contained, it was given 4,000 additional route miles and carriers which had only a minor part in development of Latin American traffic were given heavily favored extensions.

Inside Airways, granted over 7,200 route miles, was described by EAL as "a complete western regional

carrier" which can never provide more than short connections. The PAA's monopoly, EAL said, Chicago and Southern Air Lines was awarded almost 4,000 additional miles although "it is a small mid-western carrier which has never had a substantial participation in Latin American transportation."

Three other applicants in the Latin American case—Colonial Airlines, PAA and Western Hemisphere Corp., also have asked for reconsideration.

Swedish Airlines Get C-47s Converted by Canadian

The first of seven C-47s converted by Canadian, Ltd., at Montreal for Swedish Airlines has been delivered. Two more are due soon and the remaining four during the summer.

Army surplus, the planes were purchased by Canadian at about \$25,000 each. Modification cost is estimated \$40,000 each; the total contract involving about \$750,000.

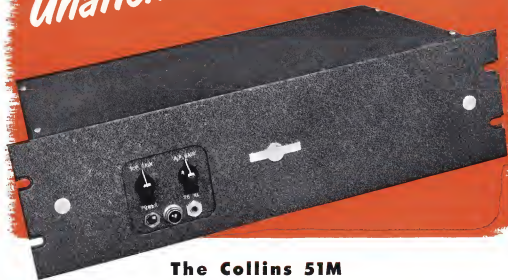
The ships will be ferried to Europe and used on the carrier's "continental" service, consulting with the Trans-Atlantic Scandinavian service expected to start about the first of August.



STONE-JONES SHAFT GOES BY AIR

This series-and-a-half-ton shaft of a mine runner machine, owned by American Airlines in a cargo DC-4 from Midway to Newark, N. J., is believed by American to be the largest single piece of machinery ever moved by air on a commercial flight. The wooden platform distributed the weight at an even 150 lb per sq ft. The top took 3 hr 45 min, against more than a week by rail.

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